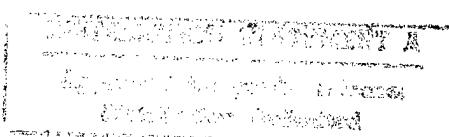


"A Phase I Archaeological Survey of a
Proposed Timber Harvest Tract and Highway
Safety Improvement Project, Fort Knox
Military Reservation, Hardin County, Kentucky"
by Pamela A. Schenian and Stephen T. Mocas,
Fort Knox. January 1996.



DTIC QUALITY INSPECTION

19961025 102

SC272-167

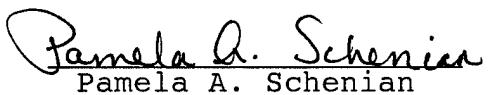
REPORT DOCUMENTATION PAGE		1. REPORT NO.	2.	3. Recipient's Accession No.
4. Title and Subtitle		A Phase I Archaeological Survey of a Proposed Timber Harvest Tract and Highway Safety Improvement Project, Fort Knox Military Reservation, Hardin County, Kentucky		
7. Authors)		Pamela A. Schenian and Stephen T. Mocas		
9. Performing Organization Name and Address		Directorate of Public Works ATTN: ATZK-PWE (Archaeology) U.S. Army Armor Center and Fort Knox Fort Knox, Kentucky 40121-5000		
12. Sponsoring Organization Name and Address		Directorate of Public Works ATTN: ATZK-PWE (Archaeology) U.S. Army Armor Center and Fort Knox Fort Knox, Kentucky 40121-5000		
15. Supplementary Notes		The Cultural Resource Management office of the Directorate of Public Works is staffed by outside contractors employed by J.M. Waller Associates, Inc., 9249 Old Keene Mill Road, Burke, Va 22015-4202 (contract DACW65-93-D-0039) or Program of Archaeology, University of Louisville, Louisville, KY 40292 (contract DABT23-95-C-0102)		
16. Abstract (Limit 200 words)				
<p>In January 1996, the Fort Knox contract archaeology staff conducted a Phase I archaeological survey of a proposed timber harvest and highway safety improvement tract north of the intersection of Highway 31W (Dixie Highway) and Highway 835 south of West Point on the Fort Knox Military Reservation, Hardin County, Kentucky. The project area is irregularly shaped. It is a maximum of 500 m long and 30 m wide, encompassing approximately 1.5 ha (3.7 acre) immediately adjoining the roads. An access route 60 m long by 50 m wide, encompassing 0.3 ha (0.7 acres), was also inspected. No archaeological sites were found in this study. It is recommended that the timber harvest be conducted as proposed.</p>				
17. Document Analysis a. Descriptors				
b. Identifiers/Open-Ended Terms				
<p>Fort Knox Hardin County, Kentucky Archaeology</p>				
c. COSATI Field/Group				
18. Availability Statement		19. Security Class (This Report)		21. No. of Pages
Release Unlimited		Unclassified		iv+12=16
		20. Security Class (This Page)		22. Price
		Unclassified		

A Phase I Archaeological Survey
of a Proposed Timber Harvest Tract
and Highway Safety Improvement Project,
Fort Knox Military Reservation, Hardin County, Kentucky

by
Pamela A. Schenian
Contract Staff Archaeologist
and
Stephen T. Mocas
Contract Assistant Staff Archaeologist

Directorate of Public Works
U.S. Army Armor Center and Fort Knox
Fort Knox, Kentucky 40121-5000
Phone: 502-624-6581
Fax: 502-624-1868

January 1996


Pamela A. Schenian
Project Principal Investigator

ABSTRACT

In January 1996, the Fort Knox contract archaeology staff conducted a Phase I archaeological survey of a proposed timber harvest and highway safety improvement tract north of the intersection of Highway 31W (Dixie Highway) and Highway 835 south of West Point on the Fort Knox Military Reservation, Hardin County, Kentucky. The project area is irregularly shaped. It is a maximum of 500 m long and 30 m wide, encompassing approximately 1.5 ha (3.7 acre) immediately adjoining the roads. An access route 60 m long by 50 m wide, encompassing 0.3 ha (0.7 acres), was also inspected. No archaeological sites were found in this study. It is recommended that the timber harvest be conducted as proposed.

MANAGEMENT SUMMARY

In accordance with Executive Order 11593 and other applicable federal laws and regulations, a Phase I archaeological survey was conducted of the proposed timber harvest and highway safety improvement project area on the northwest side of the Highway 31W-Highway 835 intersection. The project area lies within Hunting Area 6 of the Fort Knox Military Reservation, Hardin County, Kentucky. No evidence was found of archaeological sites in the project area. It is recommended that the timber harvest be conducted as proposed.

TABLE OF CONTENTS

	<u>Page</u>
Abstract	i
Management Summary	ii
Table of Contents	iii
List of Figures	iii
Introduction	1
Previous Research	4
Survey Predictions	5
Setting and Field Methods	6
Conclusions and Recommendations	7
References Cited	9
Appendix A. Resumes of Key Personnel	10

LIST OF FIGURES

	<u>Page</u>
Figure 1. Location of the Project Area	2
Figure 2. Vegetation and Field Methods	3

INTRODUCTION

In January 1996, the Fort Knox contract archaeology staff performed a Phase I archaeological survey of a proposed timber harvest and highway safety improvement tract north of the intersection of Highway 31W (Dixie Highway) and Highway 835, south of West Point on the Fort Knox Military Reservation, Hardin County, Kentucky. The proposed timber harvest tract is a maximum of 500 m long and 30 m wide, encompassing approximately 1.5 ha (3.7 acres) immediately adjoining the roads (Figures 1 and 2). A 60 m by 50 m, or 0.3 ha (0.7 acre), access route was also inspected.

The purpose of the proposed timber harvest is to improve the safety of this intersection. As one goes south of the intersection, the road curves, but the situation of having woods extending to the road on the west and a large open area on the east creates an optical illusion causing people to continue to drive in a straight line. There is an average of one accident per week near this intersection, and the West Point Police Department has requested the assistance of Fort Knox in increasing the visibility at this corner by removing a swatch of trees.

In 1993, the Fort Knox Contract Staff Archaeologist obtained all the documents necessary to perform Phase I literature searches for the installation (e.g., site forms, reports of previous investigations, historic maps). These documents are on file at the Environmental Management Division of the Directorate of Public Works, Fort Knox, and are updated regularly. No file check, therefore, was made with the Office of State Archaeology and the Kentucky Heritage Council specifically for this project.

A literature search revealed that the project area had not been previously surveyed. Therefore, during the present project the entire proposed timber harvest area was inspected by walkover, supplemented by shovel probing.

The project area lies on the Ohio River floodplain, near the base of the Muldraugh escarpment. It is included in the Plain section of the Pennyridge cultural landscape. The project area lies at the edge of the Mississippian Plateau physiographic region of Kentucky (McGrain and Currens 1978:35). Elevations in the project area range from 430 to 440 feet. Soils are classified as Crider-Vertrees soil association (U.S.D.A. 1975: General Soil Map). Drainage in the project area is into Abrahams Run, a tributary of the Ohio River.

The archaeological survey was conducted in preparation for the combined timber harvest-highway safety improvement project. The archaeological survey and literature review were required to comply with the National Environmental Policy Act, or NEPA, (Public Law 91-190), the Historic Pres-

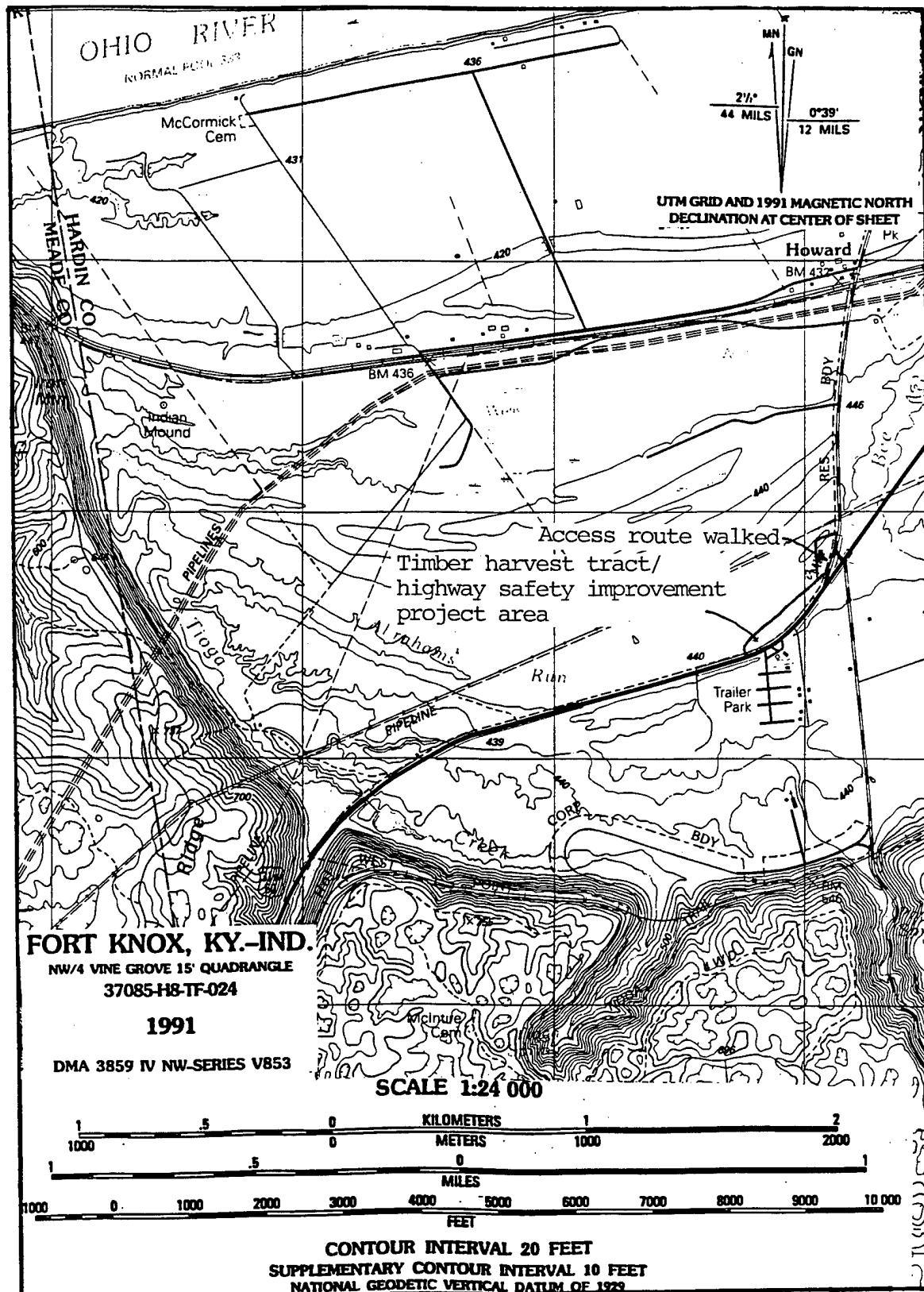


Figure 1. Location of the Project Area.

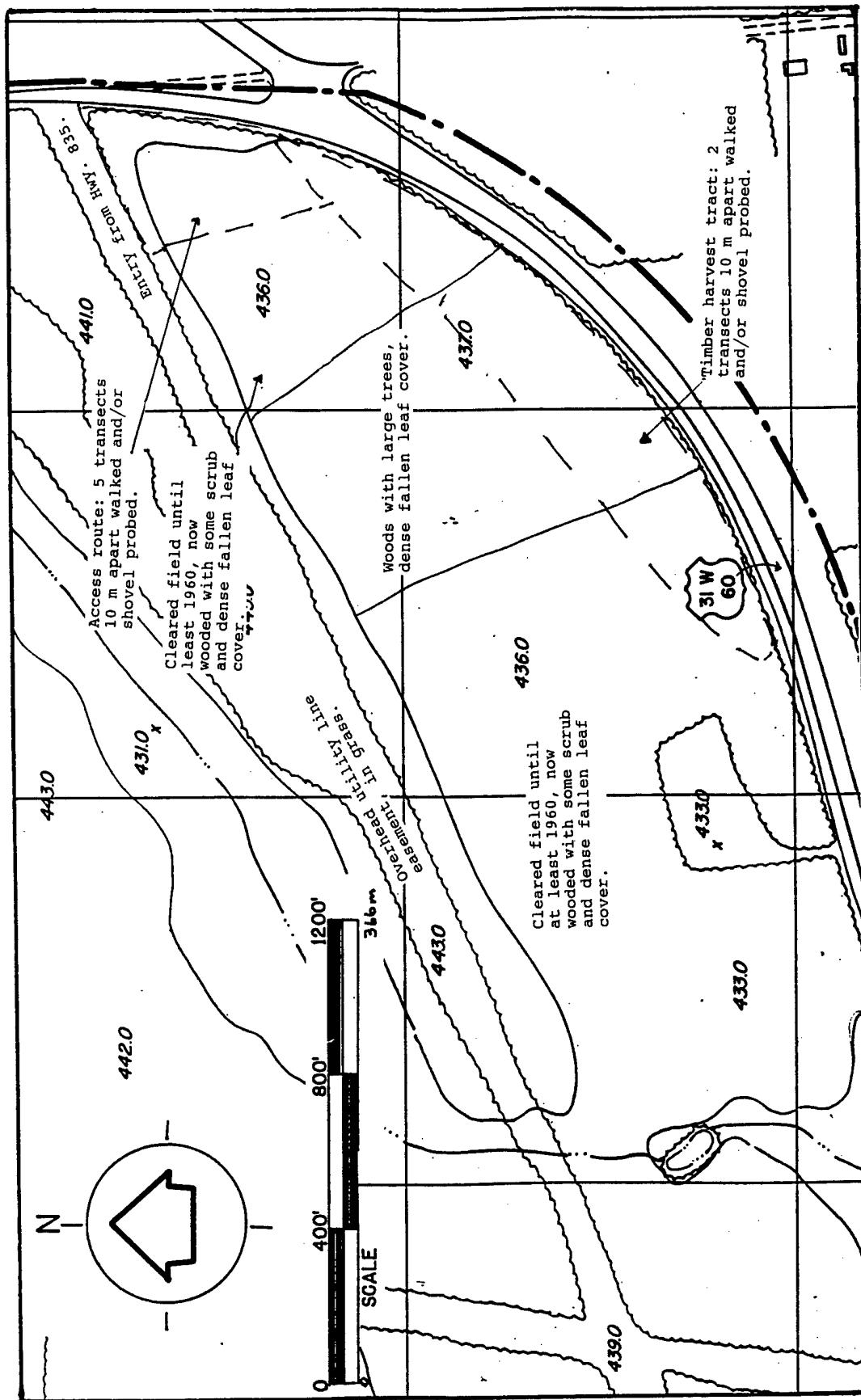


Figure 2. Vegetation and Field Methods.

ervation Act of 1966, as amended (Public Law 89-665), the Archaeological Resources Protection Act of 1979 (Public Law 96-95), Presidential Executive Order 11593, and Army Regulation 420-40.

The project area was surveyed on January 22, 1996. A total of 4.0 person hours were spent in the survey of the project area. No artifacts were observed or collected in this survey. Documentation of this project will be curated at the University of Louisville Program of Archaeology, on a "permanent loan" basis, under contract number DABT 23-95-C-0102, for curatorial and technical support (copy of contract on file, Directorate of Public Works, Fort Knox, Kentucky). Duplicate copies of the documentation will be stored at the Directorate of Public Works (DPW), U.S. Army Armor Center and Fort Knox, Fort Knox, Kentucky.

PREVIOUS RESEARCH

Approximately 26,534 acres of the Fort Knox installation have been surveyed for archaeological sites at some level, primarily in cultural resource management (CRM) studies. Schenian and Mocas (1994) summarize the archaeological studies conducted on or near the installation through August 1994. This section will focus on the previous research conducted within a 2 km radius of the current project area.

None of the project area had been previously surveyed. Within 2 km of the project area, O'Malley et al. (1980) surveyed approximately one-quarter of Hunting Area (HA) 6, HA 17, and HA 21. O'Malley et al. (1980) recorded sites 15Hd226, 15Hd227, and 15Hd273 in HA 6; 15Hd275 in HA 17; and 15Hd118 and 15Hd244 in HA 21. Sites 15Hd118 and 15Hd275 were located in parcels which have been sold since the surveys, and are no longer federal lands. Site 15Hd275, 1 km away, is the closest recorded site to the project area.

No other surveys have been conducted within 2 km of the project area. The project area is located along a boundary of Fort Knox, so much of the land within this radius is privately owned and not subject to National Historic Preservation Act requirements prior to construction.

No archaeological sites listed on or known to be eligible for listing on the National Register of Historic Places are located in or near the current project area. The north end of the L&N Turnpike segment nominated to the National Register by Fort Knox lies 1 km to the south of the project area. Highway 835 generally coincides with the route of the L&N Turnpike, although the section of Highway 835 adjoining the north end of the project area is a more modern side juncture, rather than the Turnpike alignment. The only buildings within view of the project area are the structures

in and near the trailer court on the east side of Dixie Highway. One of these is a small Quonset hut which is probably a World War II temporary building purchased from Fort Knox as Army surplus. Sixteen foot wide (such as the business near the trailer court) and 40 foot wide Quonset huts are temporary building types covered by the nationwide World War II temporary buildings Programmatic Agreement. Topographic maps indicate that the trailer park and adjoining businesses were established opposite the project area sometime after 1960 (U.S.G.S. 1960). No cemeteries are located in or near the project area.

SURVEY PREDICTIONS

Based on previous archaeological research in the area, the history of settlement, and the environmental setting of the project area, the following results were expected:

- 1) The project area is bounded on two sides by highways. It is expected that some disturbance due to road construction and borrowing is present adjacent to these roads.
- 2) Topographic maps indicate that the central third of the project area had been left wooded while adjoining areas had been cleared. Isolated wooded patches sometimes coincide with the location of older historic sites. According to Arms et al. (1979: 41-42, Sheet 1), this wooded area coincides with a patch of Robertsville silt loam, which is a poorly drained soil, subject to flooding between November and May, and unsuitable for most crops and urban uses. Due to the soil type, this wooded area has a low potential for historic archaeological sites or long-term prehistoric archaeological sites.
- 3) The previously cleared portions of the project area are located on Otwell soils (Arms et al. 1979: 35-37, Sheet 1). Otwell soils are moderately well drained but subject to seasonal flooding. There is low potential for historic archaeological sites, but moderate potential for prehistoric archaeological sites, especially seasonal or special use sites.
- 4) The soils forming a small knoll at the north end of the project area are Lawrence silt loam (Arms et al. 1979: Sheet 1). Although this soil type is described as somewhat poorly drained and poorly suited for most urban uses, the higher elevation of this location in a wide expanse of poorly drained soils suggests that there is some poten-

tial for archaeological sites on the knoll, despite the soil type.

- 5) Acquisition maps indicate that the project area encompassed portions of four properties at the time of Army acquisition, including a 0.51 acre tract located entirely within the project area at the intersection of the two highways. The structures located on these properties are depicted on the 1919 map; the structures were on the larger three tracts were located outside the project area and no structures were located on the small tract in 1919. There is therefore a low potential for historic archaeological sites. If the small tract ever had a structure on it, the structure should date between 1919 and ca. 1940.
- 6) The project area is located on a broad floodplain and terrace system of the Ohio River. This floodplain and terrace system is characterized by old sloughs and low terraces. Most of the project area appears to be in an old slough, and has a low potential for archaeological sites.

SETTING AND FIELD METHODS

The proposed timber harvest-highway safety improvement project area is located in the Plain section of the Pennyville cultural landscape and the Salt River Section of the Salt River archaeological management area. The project area lies at the base of the Mississippian Plateau physiographic region of Kentucky (McGrain and Currens 1978:35) on a floodplain and terrace system of the Ohio River. Elevations in the project area range from 430 to 440 feet.

Drainage in the project area is into Abrahams Run, a tributary of the Ohio River. Soils in the project area are classified as Crider-Vertrees soil association (U.S.D.A. 1975: General Soil Map). Soils in the project area include Lawrenceville, Robertsville, and Otwell silt loams (Arms et al. 1979: Sheet 1). These soils formed in Pleistocene and Holocene age alluvial and outwash deposits (Kepferle and Sable 1977). These deposits consist of clay, silt, sand, and gravel, with exposures of quartzite cobbles and Mississippian limestone and Silurian dolomite slabs in creek beds. Mississippian age Muldraugh Limestone, Harrodsburg Limestone, and Salem Limestone are exposed in the drainages and bluff bases approximately 1 km east, south, and west of the project area, while St. Louis Limestone underlies the soils or outcrops from the soil on the ridge tops.

The boundaries of the area to be harvested had been marked with flagging tape by the West Point police prior to

the survey. The majority of the timber harvest area was walked in two transects spaced 10 m apart. Although a third transect could have been fit in, its location was almost entirely underwater. Shovel probes were placed in areas of limited visibility. A small area outside of the proposed timber harvest area also was walked because it is the most likely access route to the timber harvest tract. The access route surveyed extends from the overhead utility line easement off Highway 835 to the north end of the project area. The access area was examined in five transects spaced 10 m apart. No archaeological materials were observed in the proposed timber harvest tract or in the access route.

If the ground surface was obscured by vegetation for greater than 10 m within a transect, then a shovel probe was excavated. Each shovel probe was approximately 30 cm square at ground surface and excavated to a depth of at least 25 cm or until subsoil or standing water was encountered. The fill was trowel sorted for possible cultural materials. Ground surface visibility was generally nearly zero percent throughout the project area, due to a dense leaf cover obscuring the surface. Most of the project area was therefore inspected by shovel probing. Except in the access area, located on a slight rise, most shovel tests encountered standing water or began to fill with water before the 25 cm depth was reached. No evidence of any archaeological materials was observed in any shovel test.

CONCLUSIONS AND RECOMMENDATIONS

The Phase I literature search of the proposed timber harvest-highway safety improvement project area and access route determined that none of the project area had been previously inspected. The project area was field inspected by walkover and shovel probing in the current study. The field inspection resulted in the discovery of no archaeological sites. It is recommended that the installation be permitted to conduct the timber harvest as proposed.

Following the timber harvest, the area will be plowed and a meadow established to prevent the regeneration of scrub growth and maintain visibility at this dangerous intersection. It is possible that the Kentucky Department of Transportation will seek to obtain an easement for the three acre area to guarantee its regular mowing. Although the visibility was poor in the project area, the soil types, wetness, and evidence for prior disturbance near the roads indicate that there is little or no potential for archaeological materials in this three acre area. No additional archaeological work is recommended in conjunction with the establishment of the meadow or granting of the easement.

In the remote possibility that archaeological materials are discovered during the timber harvest or subsequent activities, all work in the vicinity of the finds must cease and the State Historic Preservation Officer (502-564-7005) and the DPW Staff Archaeologist (502-624-6581 or 502-624-3629) should be contacted, so a representative of those agencies may evaluate the materials. Also, if human remains, regardless of age or cultural affiliation, are discovered, all activity in the vicinity of the remains must cease immediately, and the state medical examiner (502-564-4545) and the appropriate local law enforcement agency (Fort Knox Law Enforcement Command, 502-624-6852) must be contacted, as stipulated in KRS 72.020.

REFERENCES CITED

- Arms, Fred S., Michael J. Mitchell, Frank C. Watts, and Byron L. Wilson
1979 Soil Survey of Hardin and Larue Counties, Kentucky.
U.S. Department of Agriculture, Washington, D.C.
- Kepferle, Roy C., and Edward G. Sable
1977 Geologic Map of the Fort Knox Quadrangle, North-Central Kentucky. Department of the Interior, United Geological Survey, Washington, D.C.
- McGrain, Preston, and James C. Currens
1978 Topography of Kentucky. Kentucky Geological Survey Series X. Special Publication 25. University of Kentucky, Lexington.
- O'Malley, Nancy, Boyce Driskell, Julie Riesenweber, and Richard Levy
1980 Stage I Archaeological Investigations at Fort Knox, Kentucky. Archaeological Report No. 16, Department of Anthropology, University of Kentucky, Lexington.
- Schenian, Pamela A., and Stephen T. Mocas
1994 A Phase I Archaeological Survey of the Fall 1994 Rehab Areas in Training Areas 9 and 10 on the Fort Knox Military Reservation, Meade County, Kentucky. Directorate of Public Works, Fort Knox.
- United States Geological Survey
1960 Fort Knox, Kentucky, 7.5 Minute Topographic Quadrangle.
1991 Fort Knox, Kentucky-Indiana, 7.5 Minute Topographic Quadrangle.

APPENDIX A.
RESUMES OF KEY PERSONNEL

Pamela A. Schenian
Staff Archaeologist and Project Principal Investigator

Office Address: Directorate of Public Works
ATTN: ATZK-DPW (Schenian)
U.S. Army Armor Center and Fort Knox
Fort Knox, Kentucky 40121-5000
Phone: (502) 624-6581

Date and Place of Birth: January 1, 1959; Waukesha, WI.

Present Position: J.M. Waller & Associates/Fort Knox Contract Staff Archaeologist

Education:

A.B.D. in Anthropology, Northwestern University, 1984.
M.A. in Anthropology, Northwestern University, 1982.
A.B. in Anthropology, Bryn Mawr College, 1980.

Previous Employment:

Senior Staff Archeologist, Archeology Service Center, Department of Sociology, Anthropology, and Social Work, Murray State University, Murray, KY, November 1991-June 1993;
Staff Archeologist, November 1983-November 1991.

Southern Illinois University, Carbondale, IL: Field Technician, November-December 1985, September-October 1984.

Illinois State Museum Society, Springfield, IL: Field Assistant II (Supervisor), summer 1983; Field Technician, summer 1981.

Center for American Archeology, Kampsville, IL: Field Technician, summer 1982.

Department of Anthropology, Northwestern University, Evanston, IL: Teaching Assistant, 1981-82 academic year.

Great Lakes Archeological Research Center, Milwaukee, WI: Field Technician, summer 1979.

Field Research Experience:

Field experience on prehistoric and historic archaeological projects in Illinois, Indiana, Kentucky, New Jersey, South Dakota, Tennessee, and Wisconsin, 1979-present.

Professional Publications, Reports, Papers and Manuscripts:
108 CRM contract reports on projects in Indiana, Kentucky, and Tennessee.

1 Homicide site excavation contract report prepared in lieu of court testimony in Illinois.

7 Papers presented at professional conferences.

6 Publications.

Doctoral candidacy qualifying paper: "A Theory of Individual Style Variation for Archeological Studies".

Ms. submitted in partial fulfillment of the M.A. requirements: "Models of Environmental-Cultural Relationships: Testing with Archeological Evidence".

Stephen T. Mocas
Contract Assistant Staff Archaeologist

Office Address: Directorate of Public Works
ATTN: ATZK-DPW (Mocas)
U.S. Army Armor Center and Fort Knox
Fort Knox, Kentucky 40121-5000
Phone: (502) 624-6581

Present Position: University of Louisville Program of
Archaeology/Fort Knox Contract Assistant Staff Archeologist

Education:

Completed one year of doctoral program, Southern Illinois University, Carbondale, Illinois, 1972.
B.A. in Anthropology, University of Louisville, 1971.

Previous Employment:

Indiana University, Bloomington, Indiana: Staff Archaeologist, Part-time September 1991-Present.

Fort Knox/University of Louisville: Contract Assistant Staff Archaeologist, November 1993-December 1994.

Murray State University, Murray Kentucky: Staff Archaeologist, November 1991-November 1993.

Jefferson Community College, Louisville, Kentucky.
Anthropology Instructor, August 1981-December 1982.

Louisville School of Art, Louisville, Kentucky: Anthropology Instructor, January-May 1976.

University of Louisville Archaeological Survey, Louisville, Kentucky. Project Director, Field Supervisor, or Research Assistant on various projects, July 1969-January 1977.

State University of New York of Buffalo, Buffalo, New York. Senior Field Worker, June-August 1970.

Field Research Experience:

Field experience, Phase I-III, prehistoric and historic archaeological projects in the states of Illinois, Indiana, Kentucky, New York, and Tennessee, 1969-present.

Research Grants:

Six grants for fieldwork and research.

Professional Publications, Reports, Papers and Manuscripts:

- 5 Non-contract site reports on projects.
- 30 CRM contract reports on projects.
- 6 Chapters in additional site reports.
- 5 Publications.